

On the Road

ON THE RELIEF ROUTE-S.R.1

Route 7 to U.S. Route 113

Issue 1

Summer 1989



Road 30 will bridge over the Relief Route at this location northeast of Smyrna. This view is looking east on Road 30 approximately 2000 feet east of existing U.S. Route 13. Construction of this bridge will begin by fall.

ROAD 30 BRIDGE CONSTRUCTION WILL BEGIN BY FALL

After five and one-half years of planning and design, construction of the first portions of the Relief Route is about to begin. Initial activities will involve advance construction of some local road bridges. This early activity will allow these local roads to remain open during construction of the Relief Route itself, and thereby reduce the level of traffic disruption which will occur at that time. The first bridge scheduled for construction is the Road 30 bridge northeast of Smyrna. DelDOT advertised for construction bids on this bridge in mid-May. A-DEL Construction of Newark was low bidder, and its bid has been submitted to the Federal Highway Administration for approval. It is expected that a contract will be awarded in early July. That timetable would place the bridge on a schedule for groundbreaking to occur by late September, with completion by March of 1991.

Advance construction is planned for a number of other bridges as well, including those at Route 42 and Roads 345 and 66 in Dover, and Route 6 in Smyrna. These are scheduled for construction bid advertisement in the fall, with subsequent construction activities following on a timetable similar to that of the Road 30 bridge. ■

LOCATION OF NORTHERN TOLL PLAZA MAY BE CHANGED

DelDOT is considering a shift in the location of the northern toll plaza from its previously proposed location, north of the canal, to a location near Boyd's Corner. This shift is proposed because the state is seeking U.S. Army Corps of Engineers funds to finance construction of the new bridge.

If DelDOT is to be successful in the effort to obtain this funding, tolls may have to be collected at a location which clearly indicates the tolls are for the use of the highway, not for the bridge which is a free facility. A location too close to the new bridge may be perceived by motorists as being a toll for the use of the bridge and not the highway. Such a location could create difficulties in obtaining funding from the Corps of Engineers.

DelDOT is tentatively planning to hold Design Public Hearings on the Boyd's Corner Section, which includes the new toll plaza location, in late 1989 or early 1990. ■

ON THE ROAD replaces U.S. ROUTE 13 NEWS

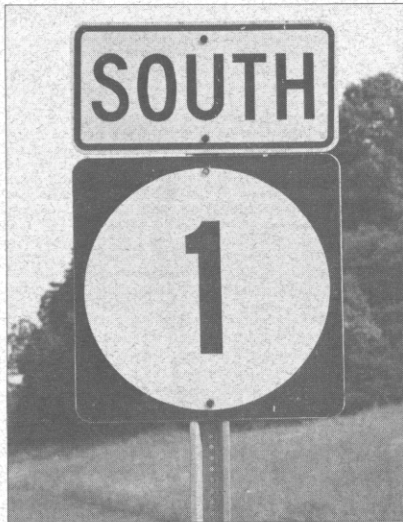
ON THE ROAD has replaced the *U.S. ROUTE 13 NEWS* as the official newsletter of the Relief Route project. The transition to this new format represents the transition of the project from the planning phases, to the design and construction phases. While the *U.S. ROUTE 13 NEWS* was primarily concerned with general issues being addressed by the Planning Team, *ON THE ROAD* will be concerned with more specific issues related to the project and its effects on Delawareans.

The *U.S. ROUTE 13 NEWS* provided the consultant team with a valuable means of communicating to Delawareans information regarding the project. It also helped stimulate feedback from local residents. The consultant team hopes that *ON THE ROAD* will also provide this valuable contact with Delawareans and that you will continue to participate in the progress of the Relief Route project.

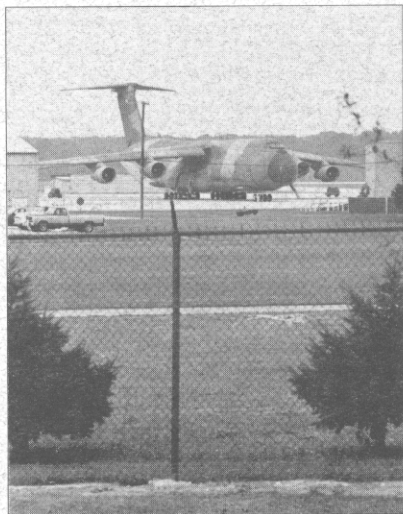
IN THIS ISSUE

- Relief Route to be S.R.-1..... 2
- Hazardous wastes found near DAFB 2
- Wetlands to be replaced..... 2
- Forester will advise DelDOT..... 2
- Interview with DelDOT engineer..... 3
- Mitigation plans approved for historic sites..... 4
- Final Design progressing..... 4
- How to contact the consultant team..... 4

Mile STONES



With the completion of the Relief Route, S.R.-1 will provide a direct route from the Delaware Turnpike to Fenwick Island.



Hazardous wastes have been identified at a number of sites near the Dover Air Force Base and may affect the construction schedule.

• **RELIEF ROUTE DESIGNATED STATE ROUTE 1** - DelDOT has determined that the Relief Route will be designated State Route 1 (S.R.-1). The S.R.-1 designation was adopted by DelDOT many years ago as the designation for the route parallel to Sussex County resort areas. It has always been expected that if a new north-south highway was developed further north, it would become part of the S.R.-1 system. With the completion of the Relief Route, U.S. Rt. 113 south of the air base to Milford will be redesignated as S.R.-1/U.S. Rt. 113. A direct, continuous route will then exist extending from the Delaware Turnpike (via S.R.-7 north of Tybouts Corners) to Fenwick Island. An additional advantage to adopting a number other than 13 for the Relief Route is that it will not affect addresses of properties located along the existing U.S. Route 13.

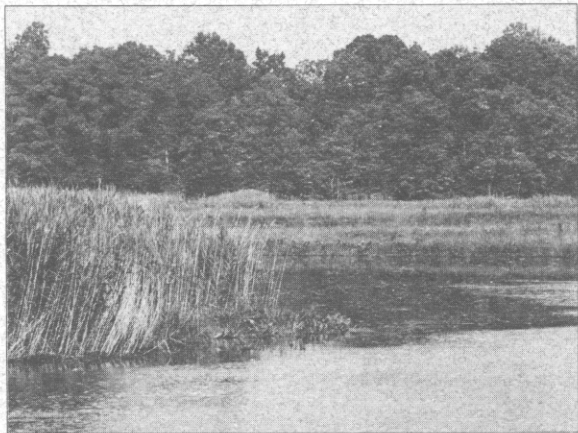
• **HAZARDOUS WASTES LOCATED** - Hazardous wastes have been identified at a number of locations on and near the Dover Air Force Base. Sites which have been identified as contaminated include the air base itself, the Boyd's Liquor site, P&F Motors, Hastings Dry Cleaning, the 7-11, Paradee Oil, Pepper Amoco, and the Mobil Oil site. Contaminants vary from site to site and include jet fuel, diesel fuel, gasoline, and chemical solvents. Contamination at each site has been preliminarily traced to activities at the site itself, or to activities at adjacent sites. The contamination is either to the soil, to the groundwater, or to both.

The contamination could affect the construction schedule as cleanup must be completed prior to the start of construction, and the litigation process surrounding the cleanup could take years. Many of the sites are located on the west side of existing U.S. Rt. 113 where the Relief Route ties into existing U.S. Rt. 113. To assure that the opening of the bypass will not be significantly delayed by this contamination, a temporary tie-in on the east side of U.S. Rt. 113 will be developed.

The cleanup process involves significant hurdles which must be overcome. Many of these hurdles are procedural and involve complying with requirements of the regulatory agencies. With the exception of the contamination at the air base, which has been designated as a Federal Super-Fund site, all other contaminated sites are under the jurisdiction of the Delaware Department of Natural Resources and Environmental Control (DNREC). DNREC does not possess the manpower or resources necessary to deal with all these sites on a timely basis. To expedite the process, DelDOT has taken over responsibility for Phase 1 and Phase 2 testing on a number of the sites. But to assure that DNREC standards are met so the cleanup can proceed on a timely basis, DelDOT is closely coordinating their efforts with DNREC. Currently most efforts are geared towards determining the existence, location, and source of the contamination, and to developing mitigation plans for cleanup and the corresponding costs.

• **WETLANDS REPLACEMENT** - The early-action Dover-Smyrna Bypass will affect 87 acres of wetlands which will need replacement. DelDOT has identified 33 potential replacement sites, from which 11 will be selected.

• **FORESTRY CONSULTANT TO BE SELECTED** - DelDOT is planning to use a forestry consultant to assist them in clearing forested portions of the right-of-way prior to construction. The forester will determine the extent of marketable timber that needs to be cleared, work with the project's landscape architect to identify species within the right-of-way that should be preserved, estimate the value of marketable timber, assist in the identification of logging companies, supervise the actual logging operations to assure that minimal damage is done to vegetation which is to remain, and develop and supervise the implementation of reforestation plans. (MILESTONES continues on Page 4)



87 acres of wetlands will be replaced by the Relief Route project.

1ne PERSPECTIVE

Perspective is a regular feature of *ON THE ROAD*, and is designed to provide readers with insights into the "behind the scenes" activities associated with the Relief Route. Each **Perspective** will include an interview with a key person involved in the ongoing design and construction activities.

In this issue, **Perspective** interviews Carolann Wicks, Project Coordinator for DelDOT. Carolann is an engineer who has been employed by DelDOT for 7 years, and has been involved with the Relief Route study since its inception. Carolann was asked to respond to questions about the final design process.

Q. What happens during the Relief Route's Final Design engineering phase?

CW. The highway planning process is like an upside-down pyramid. The wide base at the top represents the location planning phase, when many alternative locations for the new road are proposed and evaluated. Alternatives are gradually eliminated until the one best corridor is chosen. The narrowing, bottom part of the pyramid represents the final design phase, when engineers focus on the selected 300' right-of-way and develop criteria for road design—e.g., type of pavement, speed along curves, "clear zones" where obstacles are not allowed, and maximum grades based on such factors as topography, soil conditions, and drainage patterns. The outcome of the design engineering process, the point of the pyramid, is a blueprint from which actual construction of the new road can occur.

Q. How do local conditions affect design engineering of the highway?

CW. Kent County is very flat. The landscape's lack of slope slows down the movement of water, causing it to sit in fields and pond in ditches. Consequently, drainage design has been a major concern. The engineers are working closely with local farmers and county tax ditch staff to design the highway drainage system. Where possible, roadway drainage outfall will flow into existing "tax ditches" set up for farmers by the county and on into natural streams and lowlands. Where overflow is anticipated, a retention basin will be created on the right-of-way to control the release of water downstream.

Another factor is the high water table, which in many places along the Smyrna-Dover Bypass is less than six inches below the surface. Most of the road, therefore, must be constructed on fill to get enough slope down from the roadbed to dig drainage ditches without hitting the water table.

Poor soil material further inhibits drainage and increases the need for fill. For example, because of weak, relatively non-porous clay soils along Road 30, construction of the bridge over the Relief Route will require expensive foundation piers under the abutment on each side. Also behind Dover Downs, the soils are very organic and especially weak. Here, fill will be built up in stages, allowing time for settlement and self-compaction, in a process called surcharging. Apparently, the main roadway alignment along Dover Downs follows an old floodplain, which probably explains both the organic soils and the discovery by archaeologists of ancient Indian campsites in the area.

Q. What economic concerns have affected the engineering design process?

CW. The Relief Route project will require large amounts of fill material. This material will be used to assure that the relief of the road surface is adequate for drainage, and to level out depressions in the area's natural grade to assure that the minimum and maximum highway grade standards are met. Because Kent County has no rolling hills, which are the usual source of fill material on road construction projects, nearly all the fill may have to be purchased and could add to the project cost. One possible solution is for the state to examine the potential use of landlocked parcels as borrow pits.

The choice of materials for pavement design—concrete vs. hotmix (asphalt)—will be affected by two, possibly competing, economic concerns. First, how do the life-cycle costs of roadway maintenance and repair compare under the two options? Second, how will the choice of material affect the state's economy? It will be difficult to ignore the vast impact of the pavement decision on local resources, where the materials will come from, and who will supply them.

Q. What factors must be considered in the design of U.S. Route 113 adjacent to the Dover Air Force Base?

CW. Because the Relief Route along the DAFB involves upgrade of an existing road, rather than a new alignment, decisions are more complex and constraints on design more numerous. Nearby air base housing must be demolished and replaced

(PERSPECTIVES continues on Page 4)



Carolann Wicks, DelDOT Project Coordinator.

DID YOU KNOW?

- Delaware currently has about 5,710 miles of roads and streets, 5,098 miles of which are state maintained.
- DelDOT has a staff archaeologist who looks for evidence of historic structures and archaeological sites before any right-of-way acquisition or road construction can begin.
- Delaware motorists can report highway problems and emergencies to DelDOT's Response Line. (North District 368-6808, Central District 736-4871, South District 856-3591).
- Carpool, vanpool, and computerized ride-matching services are provided by the Delaware Ridesharing Administration. (1-800-292-POOL)

MILESTONES (continued from p. 2)

• **HISTORIC RESOURCE MITIGATION** - Mitigation plans have been developed for the historic properties affected by the Roads 30 and 345 bridges, and have been approved by the Delaware State Historic Preservation Officer. These plans call for the use of landscaped berms and landscape screening to minimize the noise and visual effects of the Relief Route on these properties.

• **MAINLINE FINAL DESIGN** - Final design for the Smyrna-Dover Bypass is 50-60% complete. Advertisement for construction bids is scheduled for Spring or Summer of 1990. Plans identifying the specific properties which must be acquired to accommodate the Relief Route are almost complete, and acquisition has begun. ■

PERSPECTIVES (continued from p. 3)

in-kind or at an equivalent cost. Most utility lines--especially underground electric, water and telephone lines at the interchange location--will have to be relocated. The existing road must be completely rebuilt.

Negotiations with DAFB are more complicated than with most landowners. The base does not want monetary compensation, which would go to the federal treasury, but in-kind compensation for any base property acquired by the state. Meanwhile, use of Dover Air Base land has been complicated by the discovery of hazardous wastes on and near the site. These include buried gasoline tanks, dry cleaning chemicals, and leaching jet fuel solvents. The issue of compensation for cleanup is very complex as a number of questions need to be resolved including: what does a clean-up cost; how clean is clean; and who should pay? ■

To Our Readers

The State of Delaware and the consultant team are committed to continuing the citizen input process during the design and construction phases of the project. We invite you to write us with questions or comments regarding On The Road, or to arrange for a presentation to bring your group up to date on the Relief Route.

For More **INFORMATION**

CONTACT THE CONSULTANT TEAM

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Ask For : Jeremy Alvarez - Deputy Director
Matthew Kremer - Project Manager

OR CONTACT THE DEPARTMENT OF TRANSPORTATION

Delaware Department of Transportation
P.O. Box 778
Dover, DE. 19903

- Public Information or Reports - contact Michele Ackles, Manager of Community Relations, at 736-4313.
- Design Issues or Alignment Location - contact Carolann Wicks, Project Coordinator, at 736-4341.
- Environmental Issues - contact Joe Wutka, Location Studies Engineer, at 736-4642.
- Right-of-Way Acquisition and Relocation - contact Rodney Hill, Chief of Right-of-Way, at 736-4323.

On the Road is produced by Kise Franks & Straw, consultant to the Delaware Department of Transportation as part of the effort to keep Delawareans up-to-date on the design and construction phases of S.R.-1 Relief Route. Funds for ON THE ROAD are provided by the Federal Highway Administration and DelDOT. To receive your free copy of ON THE ROAD, as well as other mailings related to the project, please write or call us with your request.

On the Road

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